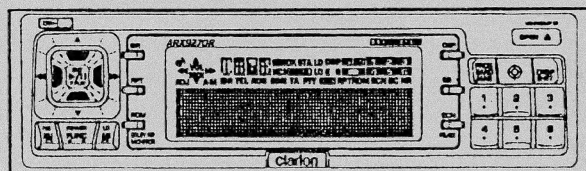


# Service Manual



## RDS-EON/FM-MPX/MW/LW Radio Cassette Combination with DSP/EQ/CD Changer control

Model **ARX9270R**  
( PE-9902E-B )

### ■ ORIGINAL SERVICE MANUAL

This additional service manual is designed to be used together with Model ARX9170R

Original model	Manual No.
ARX9170R	298-5213-00 353

### ■ SPECIFICATIONS

#### Radio section

Receive frequencies: LW 153kHz to 279kHz  
(1 kHz steps)  
MW 531kHz to 1,602kHz  
(9 kHz steps)  
FM 87.5MHz to 108.0MHz  
(0.05 MHz steps)

#### Tape Deck section

Playback system: Auto reversing, 4-track, 2-channel  
stereo cassette tape playback (Monaural also capable)  
Tape speed: 4.76cm/sec.(1-7/8ips)

#### General Section

Load impedance: 10k $\Omega$   $\times$  4 (Line out)  
10k $\Omega$   $\times$  2 (Non fader out)

Power supply voltage: DC14.0V (10.8 to 15.6V allowable),  
Negative ground

Current consumption: Less than 3A

Dimensions(mm): Width 178  $\times$  Height 50  $\times$  Depth 152  
Weight: 1.6kg

- ※ For improvement purposes, specifications and design are subject to change without prior notice.
- ※ Dolby noise reduction is manufactured under license from Dolby Laboratories Licensing Corporation.

※ "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

### ■ COMPONENTS

Main unit		1
Remote controller	RCB-058-300	1
Battery (CR2058BC)		1
Sticker	291-0062-00	1
Mounting bracket (univ.)	300-9035-01	1
D.C.P. case	335-4848-03	1
Extension lead	854-3843-00	1
Parts bag		
Hook plate	331-8216-01	2
Lead holder	335-0833-01	1
Spacer	345-3653-01	1
Screw	716-0726-01	1

### ■ To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

#### 1. Use specified parts.

The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.

The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.

- Place the parts and wiring back in their original positions after replacement or re-wiring.  
For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc., is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.  
If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
- Check for safety after repair.  
Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary problems around the repaired spots.  
If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
- Caution in removal and making wiring connection to the parts for the automobile.  
Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

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#### 5. Cautions regarding chips.

Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc.). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.

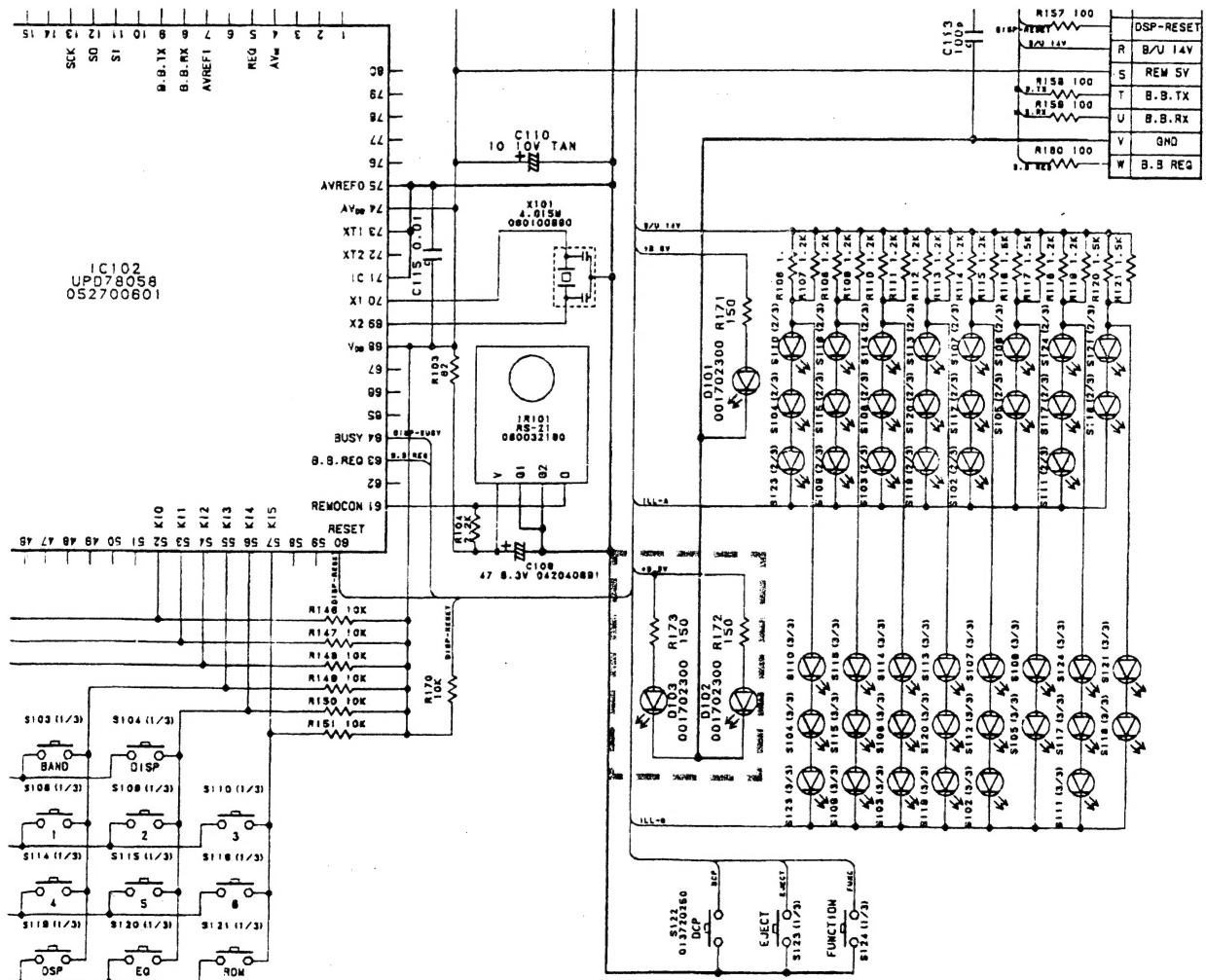
#### 6. Cautions in handling flexible PWB

Before working with a soldering iron, make sure that the iron tip temperature is around 270°C. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.

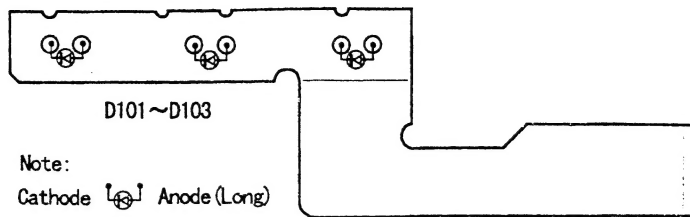
#### 7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

## ■ DIFFERENCE FROM ORIGINAL MODEL

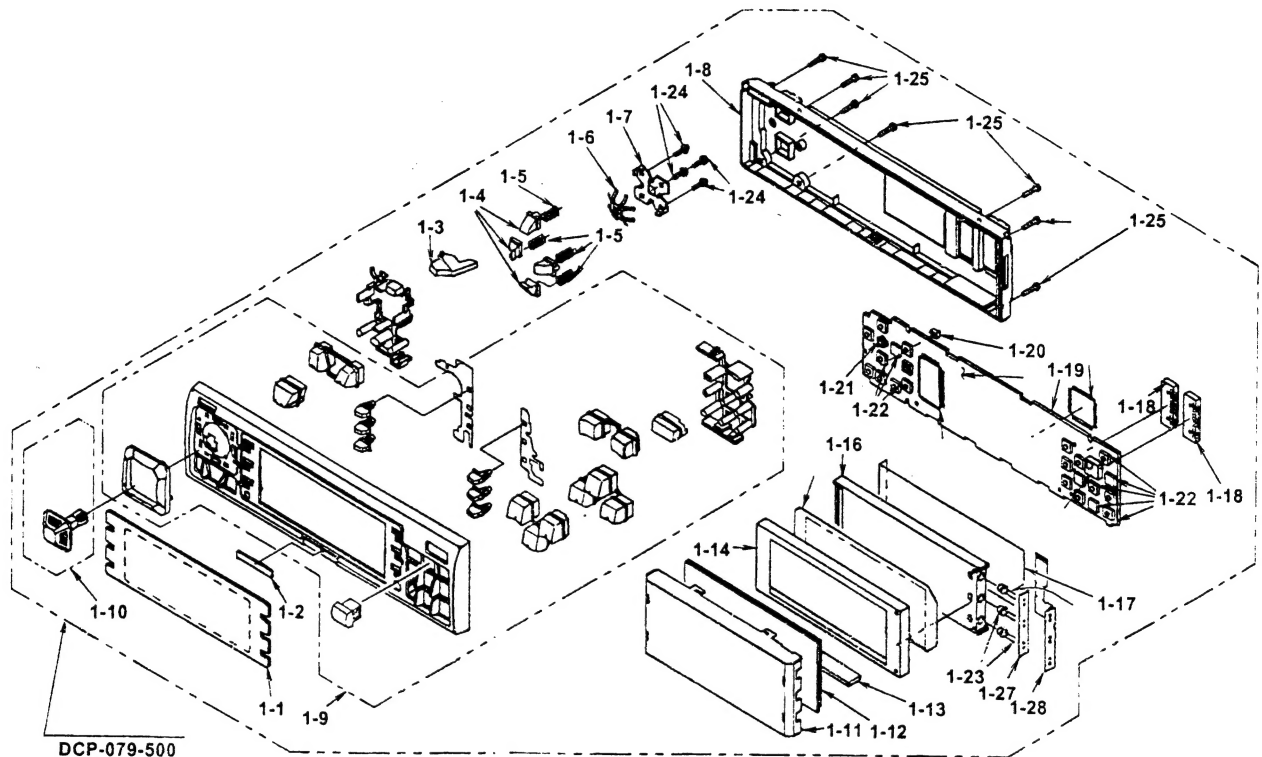
- LED ILLUMINATION
- Some of the escutcheon parts.



FPC : 039-0643-00



## EXPLODED VIEW / PARTS LIST



NO.	PART NO.	DESCRIPTION	Q'TY	NO.	PART NO.	DESCRIPTION	Q'TY
1	DCP-079-600	D.C.P.	1	1-17	347-5239-00	REFLECTOR	1
1-1	373-0774-07	DIAL COVER	1	1-18	076-0456-30	PLUG(D.C.P. 10P)	2
1-2	378-0134-00	BADGE	1	1-19	039-0656-00	SWITCH P.W.B.	1
1-3	382-7665-00	BUTTON	1	1-20	013-7202-50	SWITCH	1
1-4	335-4846-00	PUSH PLATE	1	1-21	013-6501-52	SWITCH	1
1-5	750-3172-00	SPRING	4	1-22	013-6501-51	SWITCH	22
1-6	750-3149-00	SPRING	1	1-23	001-7023-01	LED	3
1-7	331-0587-20	SPRING HOLDER	1	1-24	716-0778-00	WAVE SCREW	4
1-8	335-4839-00	REAR COVER	1	1-25	716-1721-00	P-TIGHT SCREW(M2×8)	6
1-9	940-7704-01	ESCUTCHEON	1	1-26	716-1726-00	WAVE SCREW(M1.7×6)	1
1-10	947-0835-00	KNOB(P.PLAY)	1	1-27	347-5241-00	LED HOLDER	1
1-11	331-1821-00	LCD COVER	1	1-28	039-0643-00	FPC	1
1-12	379-1025-71	INDICATOR	1	1-29	335-5099-00	ILLUMI PLATE	1
1-13	345-5240-00	RUER CONNECTOR	1	48	940-7708-01	INNER ESCUTCHEON	1
1-14	347-5240-00	FILM FRAME	1	51	320-0442-23	DUSTPROOF-COVER	1
1-15	347-5238-00	FILM	1	118	074-1128-00	OUTLET SOCKET	1
1-16	335-5092-00	ILLUMI PLATE	1	136	286-9772-00	SET PLATE	1



## ■ EXPLANATION OF ICs

■  $\mu$ PD78058GC-025-389 052-3318-00 System Controller  
 $\mu$ PD78058GC-044-389 052-3316-01 (Master Microcomputer)

\* 052-3318-00 and 052-3316-01 are not compatible with each other.

### Outward Form

80-pin plastic QFP

### Terminal Description (052-3318-00)

No.	Symbol	I/O	Function
1 3	GND	-	GND terminal.
4 6	AV <sub>SS</sub>	-	GND terminal for A/D.
7	AVref 1	-	A/D reference voltage terminal (+ 5V).
8 9 10	SI 2 SO 2 SCK 2	-	Connected to GND.
11 12	DISP SI DISP SO	I O	Terminal to input and output data of serial bus line.
13 14 15	DISP SCK DISP RESET DISP BUSY	O O I	Terminal to input and output signal to DCP microcomputer.
16 17 18	C-BUS SI C-BUS SO C-BUS SCK	I O O	C-BUS line SI/SO/SCK terminal on master side.
19 26 27 29	AD 0 AD7 A 8 A 10	I/O O	Address/data bus for SRAM interface.
30	NC	-	Not in use.
31	SRQ	I	C-BUS line SRQ terminal on master side.
32	ACC CONT	O	ACC controlling terminal of serial bus line.
33	V <sub>SS</sub>	-	GND terminal.
34	ILLUMI 1	O	"H" is outputted in the case of AMBER.
35	ILLUMI 2	O	"H" is outputted in the case of GREEN.
36	ACC REM	O	Terminal to control ON/OFF of 5V system power supply (ACC 5V).
37	REM + B	O	Terminal to control ON/OFF of + B (audio system) power supply.
38	MUTE	O	Terminal to output SYSTEM MUTE signal.
39	BLINK LED	O	BLINKING LED terminal.
40	RD	O	Strobing terminal for SRAM lead.
41	WR	O	Strobing terminal for SRAM light.
42	CE	O	Terminal to enable SRAM chip.
43	ASTB	O	Latch terminal for SRAM light.
44 45	GND	-	GND terminal.
46 47 48	EVOL CLK EVOL DATA EVOL CE	O	Terminal to transfer serial data to electric volume.
49	PHONE INT	I	Terminal to input interruption signal from telephone.
50 53	GND	-	GND terminal.

Note: Only new microcomputers are described here.

Pin No.	Symbol	I/O	Function															
54 55	MOTOR - MOTOR +	O	Terminal to control direction of motor revolution of flap. <table><tr><th>MOTOR +</th><th>MOTOR -</th><th>Direction of flap movement</th></tr><tr><td>H</td><td>H</td><td>Brake</td></tr><tr><td>H</td><td>L</td><td>In the direction of OPEN</td></tr><tr><td>L</td><td>H</td><td>In the direction of CLOSE</td></tr><tr><td>L</td><td>L</td><td>—</td></tr></table>	MOTOR +	MOTOR -	Direction of flap movement	H	H	Brake	H	L	In the direction of OPEN	L	H	In the direction of CLOSE	L	L	—
MOTOR +	MOTOR -	Direction of flap movement																
H	H	Brake																
H	L	In the direction of OPEN																
L	H	In the direction of CLOSE																
L	L	—																
56	REM MOTOR	O	Flap block battery ON/OFF control terminal. Flap power ON: H															
57	DR SENC	I	Input terminal to detect opening and closing of cassette door. Pack in : "H" No pack : "L"															
58	OPEN SENC	I	Terminal to detect opening of flap.															
59	CLOSE SENC	I	Terminal to detect closing of flap.															
60	RESET	I	Terminal to input reset signal.															
61	DISP REQ	I	Terminal to input REQ signal from DCP microcomputer.															
62	B/U	I	Input terminal for BACK UP detection.															
63	ACC IN	I	Input terminal for ACC ON/OFF detection. "H" at ACC ON. "L" at ACC OFF.															
64	EJECT	I	Input terminal for EJECT key detection. The terminal turns "H" when key is pressed.															
65	ILLUMI DET	I	Input terminal for ILLUMI detection.															
66	DCP IN	I	Input terminal for DCP detection. The terminal turns "L" when DCP is detected.															
67	FUNCTION	I	Input terminal for power (function) SW detection. The terminal turns "L" when FUNCTION SW is ON.															
68	V <sub>DD</sub>	-	Power supply voltage terminal ( + 5V).															
69 70	X 2 X 1	-	System clock terminal.															
71	V <sub>SS</sub>	-	GND terminal.															
72	NC	-	Not in use.															
73	SELF CHECK	I	Terminal for SELF CHECK.															
74	AV <sub>DD</sub>	-	A/D power supply voltage terminal ( + 5V).															
75	AVref 0	-	A/D reference voltage terminal (0V).															
76 80	GND	-	GND terminal.															

### Differences (0952-3316-01)

Pin No.	Symbol	I/O	Function
50	BEEP	O	BUZZER output terminal which sends signal to turns the buzzer on.
51 58	NC	-	Not in use.
59	2105/2106	I	Terminal for input of PE-2105/PE-2106 selector signal. "H" in PE-2105 mode.
76	TEMP	O	The terminal judges high temperature when input voltage drops below 2.46V.



# ■ PD78014GC-641-AB8 052-1301-10 Tuner Controller

Outward Form  
64-pin plastic QFP

## Terminal Description

No.	Symbol	I/O	Function
1	SD UP	O	Output when measuring a PLL setting IF count.
2	LPF CONT	O	PLL low-pass filter control terminal.
3	RDS MUTE	O	"H" is output for 1 second both at power (POWER & ACC)-on and AM to FM band switching.
4	OUT 1	O	"H"/"L" is simply output by receiving an arbitrary command from the master.
5	OUT 2		
7	OUT 4		
8	NC	-	Not in use.
9	GND	-	GND terminal.
10	SRAM AD 0	I/O	SRAM control. Address & data line. Port commonly used for the lower 8-bit address and 8-bit data.
11	SRAM AD 1		
17	SRAM AD 7		
18	SRAM A 8	O	SRAM control. Address line. Upper 3-bit address output only port.
19	SRAM A 9		
20	SRAM A 10		
21	NC	-	Not in use.
22	SRAM CE	O	SRAM control chip enable. "L" output at any time while the power (POWER & ACC) is turned on.
23	S CW	I	Initial setting CW detection enable ("H"/disable ("L").
24	GND	-	GND terminal.
25	S RDS IC	I	Initial setting RSD-IC selection. PHILIPS ("H")/SANYO ("L"). Disabled when RDS ID signal is at "H" and enabled at "L".
26	S SD UP	I	Initial setting SD UP enable ("L"/disable ("H").
27	SRQ	O	C-BUS communication SRQ output.
28	NC	-	Not in use.
29	REM	O	Remote signal output. "L" output at any time while the power (POWER & ACC) is turned on.
30	R MUTE	O	RADIO MUTE output. MUTE ON at "L". Turn on when changing the reception frequency.
31	SRAM RD	O	SRAM control. Data read signal. "L" output when executing a data read instruction from the SRAM.
32	SRAM WR	O	SRAM control. Data write signal. "L" output when executing a data write instruction to the SRAM.
33	AM SD	I	AM band. With-station detection signal input.
34	SRAM ASTB	O	SRAM control timing signal. Always output by effecting the memory expansion mode.
35	RESET	I	Microcomputer reset signal.

## ■ ADJUSTMENT:

### ● FM SECTION

Item	Procedure
S-meter	1.Connect the digital volt-meter to TP101. 2.Input the 98.1MHz/30dB(30%,400Hz)signal and adjust the level to 2.4V±0.1V by VR101.
Stop sensitivity	1.Input the 98.1MHz/28dB(30%,400Hz)signal. 2.Connect the GND to TP103. 3.Adjust VR102 so that the voltage of TP102 is high.(or seek up tuning stops)

### ● TAPE SECTION

Item	Procedure
Dolby level	1.Insert a Dolby level test tape(400Hz-200nWb/m),connect the milli-volt- meter to TP-L,TP-R and GND. 2.Adjust VR201 and VR202 to obtain an output of 388mV+1.5/-0.5dB at FWD and REV direction. (Dolby switch:OFF)

No.	Symbol	I/O	Function
36	INITIAL AM SD	I	Initial setting AM band SD detection. Yes ("H")/No ("L") designation. "H" : Performs SD detection.
37	ACC CONT	I	ACC signal (Terminal interrupt). "H" at ACC ON. "L" at ACC OFF.
38	RDS IC CLK	I	RDS IC communication. Clock input. (Terminal interrupt)
39	IF MUTE	O	IF MUTE terminal.
40	VDD	-	Supply voltage terminal.
41	XTAL	I	Main clock oscillator (8.38 MHz) connection terminal.
42	XTAL	I	Main clock oscillator (8.38 MHz) connection terminal.
43	GND	-	GND terminal.
44	NC	-	Not in use.
45	ST ID	I	Stereo signal input. Stereo ("L")/monaural ("H").
46	A GND	-	A/D converter GND terminal.
47	S Meter	I	Electric field intensity (S meter) input (A/D conversion).
48	CW	I	CW (carrier) signal input (A/D conversion). Only when initial setting CW detection is enabled.
49	SD	I	Station enable detection signal input.
50	RSD ID	I	RDS station recognition signal input. RDS station ("L").
51	SK ID	I	ARI station SK signal input. SK-ON ("L").
52	DK ID	I	ARI station DK signal input. DK-ON ("L").
53	RDS IC DATA	I	RDS IC communication data input. The port is read directly at clock interrupt time.
54	NC	-	Not in use. (+ 5V pullup or GND)
55	AVDD	-	A/D converter supply power.
56	A VREF	I	A/D converter reference voltage input.
57	PLL DI	I	PLL IC serial communication data input. Takes in the IF count data.
58	PLL DO	O	PLL IC serial communication data output. Sets the frequency divider, general purpose port data, etc.
59	PLL CLK	O	PLL IC serial communication clock output. Clock frequency: 524 kHz.
60	PLL CE	O	PLL IC serial communication chip enable output.
61	NC	-	Not in use.
62	C-BUS SBI	I	C-BUS communication data input.
63	C-BUS SBO	O	C-BUS communication data output.
64	C-BUS SCK	I	C-BUS communication clock input. The clock frequency depends on the master microcomputer.

## ■ PARTS LIST:

Note) Several different parts listed in the column are alternative parts. One of those parts is used in the set.

### Q SWITCH PWB

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
C101,103	042-0397-00	CHIP-C 16V 1 μF TAN	2	X101	060-1009-00	CERA-RESONATOR*4.195MHz	1
C109	042-0406-01	CHIP-C 6.3V 47 μF TAN	1	C112,113	176-1011-00	CHIP-C 100pF	2
C110	042-0416-02	CHIP-C 10V 10 μF TAN	1	C111	176-2211-00	CHIP-C 220pF	1
IC101	051-6010-00	IC SED1526FOA	1	C114,115	178-1032-78	CHIP-C 0.01 μF	2
IC102	052-7006-01	IC μPD78058GC-038-3B9	1	C104-108	178-1042-78	CHIP-C 0.1 μF	5
IR101	060-0321-00	IR-RECEIVER	1				

### Q MAIN PWB

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
D106,304,320	001-0330-00	DIODE 1SS119	3	C321	172-1041-11	POLY-C 0.1 μF	1
D101	001-0366-00	DIODE LTZMR15	1	C307	172-4731-11	POLY-C 0.047 μF	1
D301	001-0377-37	DIODE MA4068L	1	C121,347	172-6831-11	POLY-C 0.068 μF	2
D103,201	001-0377-47	DIODE MA4091M	2	C320,344	173-1021-11	POLY-C 1000pF	2
D319	001-0423-22	DIODE MA4075	1	C202,203,229,230	173-2221-11	POLY-C 2200pF	4
D305,307,315	001-0466-00	DIODE S5688B	3	C115-118,138,144	176-1011-00	CHIP-C 100pF	10
D104-108,202,306	001-0516-00	DIODE MA111	11	C327,330,333,335			
312-314,317				C127	176-1501-00	CHIP-C 15pF	1
D102	001-0540-00	DIODE HVM187WK	1	C128	176-1801-00	CHIP-C 18pF	1
D318	001-0659-00	LED SLP-181B-51	1	C139,146,148,150	176-2211-00	CHIP-C 220pF	14
L102	010-2003-04	COIL*AM	1	279,326,328,334			
L101	010-2230-00	COIL*0.15 μH	1	338,337,340-343			
L103	010-2230-14	COIL*2.2 μH	1	C130	176-3311-00	CHIP-C 330pF	1
L104,105,201	010-2230-26	COIL*22 μH	3	C134	176-4701-00	CHIP-C 47pF	1
L106	010-2230-38	COIL*220 μH	1	C110	176-4711-00	CHIP-C 470pF	1
VR102,201,202	012-5123-06	VARIABLE-R*10K	3	C132,277,278	176-5611-00	CHIP-C 560pF	3
VR101	012-5123-15	VARIABLE-R*470K	1	C133	176-8201-00	CHIP-C 82pF	1
CCT101	050-0122-50	COMPONENT CIRCUIT*10k Ω	1	C304,313,314,329	178-1022-78	CHIP-C 1000pF	4
IC304	051-0160-56	IC HD74LS07FPD	1	C135,136,142,152	178-1042-78	CHIP-C 0.1 μF	9
IC203,204	051-0350-55	IC NJM4558M	2	153,236,274,324			
IC306	051-0869-05	IC MB3771PF(-G)	1	338			
IC305	051-1014-05	IC TA7291F	1	C120	178-1532-78	CHIP-C 0.015 μF	1
IC106,303	051-1046-46	IC LC3517BML-12	2	C237,275	178-1822-78	CHIP-C 1800pF	2
IC105,302	051-1051-05	IC TC74HC573AF	2	C101,102,111-113	178-2232-78	CHIP-C 0.022 μF	14
IC103	051-1819-00	IC SAA6579T	1	125,140,141,145			
IC307	051-3201-00	IC AN77L06	1	148,151,305,316			
IC202	051-5004-00	IC CXA1946Q	1	332			
IC201	051-5200-90	IC CXA1332M	1	C241,271	178-2722-78	CHIP-C 2700pF	2
IC101	051-6201-00	IC LC72146M	1	C123	178-3332-78	CHIP-C 0.033 μF	1
IC104	052-1301-10	IC μPD78014GC-641-AB8	1	C114	178-4722-78	CHIP-C 4700pF	1
IC301	052-3318-01	IC μPD78058GC-046-3B9	1	C315	178-4732-78	CHIP-C 0.047 μF	1
SUP101	060-0122-10	SURGE PROTECTOR*DSP-201	1	C126	042-0452-01	ELEC-C 10V 220 μF	1
X301	060-0266-90	CERA-RESONATOR*4.19MHz	1	C317	042-0458-06	ELEC-C 10V 22 μF	1
X103	060-0320-50	CERA-RESONATOR*8.38MHz	1	C312	042-0467-00	D-LAYER-C 5.5V 0.1F	1
X101	061-1066-00	CRYSTAL*7.2MHz	1	C204,226	042-0537-00	ELEC-C 50V 0.56 μF	2
X102	061-3013-00	CRYSTAL-OSC*4.33MHz	1	C124,263,310,322	183-1053-61	ELEC-C 50V 1 μF	6
Q110,111,308	100-1162-00	TR 2SA1162	3	323,346			
Q306	100-1298-00	TR 2SA1298	1	C201,206,210,239	183-1063-31	ELEC-C 16V 10 μF	15
Q312	101-1237-00	TR 2SB1237	1	242,243,245,248			
Q313	101-1243-00	TR 2SB1243	1	249,259,265,269			
Q302,304,305,307	102-2712-00	TR 2SC2712	5	270,272,319,325			
317				C228	183-1073-21	ELEC-C 10V 100 μF	1
Q106,107	102-2712-51	TR 2SC2712G,L	2	C129	183-2253-61	ELEC-C 50V 2.2 μF	1
Q104,201,202	103-1306-00	TR 2SD1306	9	C137,345	183-2263-31	ELEC-C 16V 22 μF	2
204-207,321,322				C205,227	183-3343-61	ELEC-C 50V 0.33 μF	2
Q203,315,323	103-1802-60	TR 2SD1802FA-RSTU	3	C122,207-209,225	183-4753-51	ELEC-C 35V 4.7 μF	11
Q109	108-0241-50	FET 2SK241	1	244,247,250,267			
Q105,320	125-0002-06	TR RN2406	2	268,311			
Q101,102,103,108	125-2004-03	TR RN1403	8	C119,131	183-4763-11	ELEC-C 6.3V 47 μF	2
112,301,316,324				C231,262,306	183-4763-31	ELEC-C 16V 47 μF	3
Q303,318,319	125-2004-06	TR RN1406	3	C238,276	183-6843-62	ELEC-C 50V 0.68 μF	2
R342	032-0108-00	FUSE-R 1/4W 1.8 Ω	1	C318	184-4773-32	ELEC-C 16V 470 μF	1
R355	114-1001-11	FILM-R 1W 10 Ω	1				

EXPLODED VIEW • PARTS LIST:

REF NO.	PART NO.	DESCRIPTION	Q'TY
1	373-0774-01	Dial cover	1
2	378-0134-00	Badge	1
3	382-7665-00	Button (RELEASE)	1
4	335-4846-00	Push plate	4
5	750-3172-00	Spring	4
6	750-3149-00	Spring	1
7	331-0587-20	Spring holder	1
8	335-4839-00	Rear cover	1
9	940-1732A	DCP ass'y	1
10	940-7704-00	Escutcheon ass'y	1

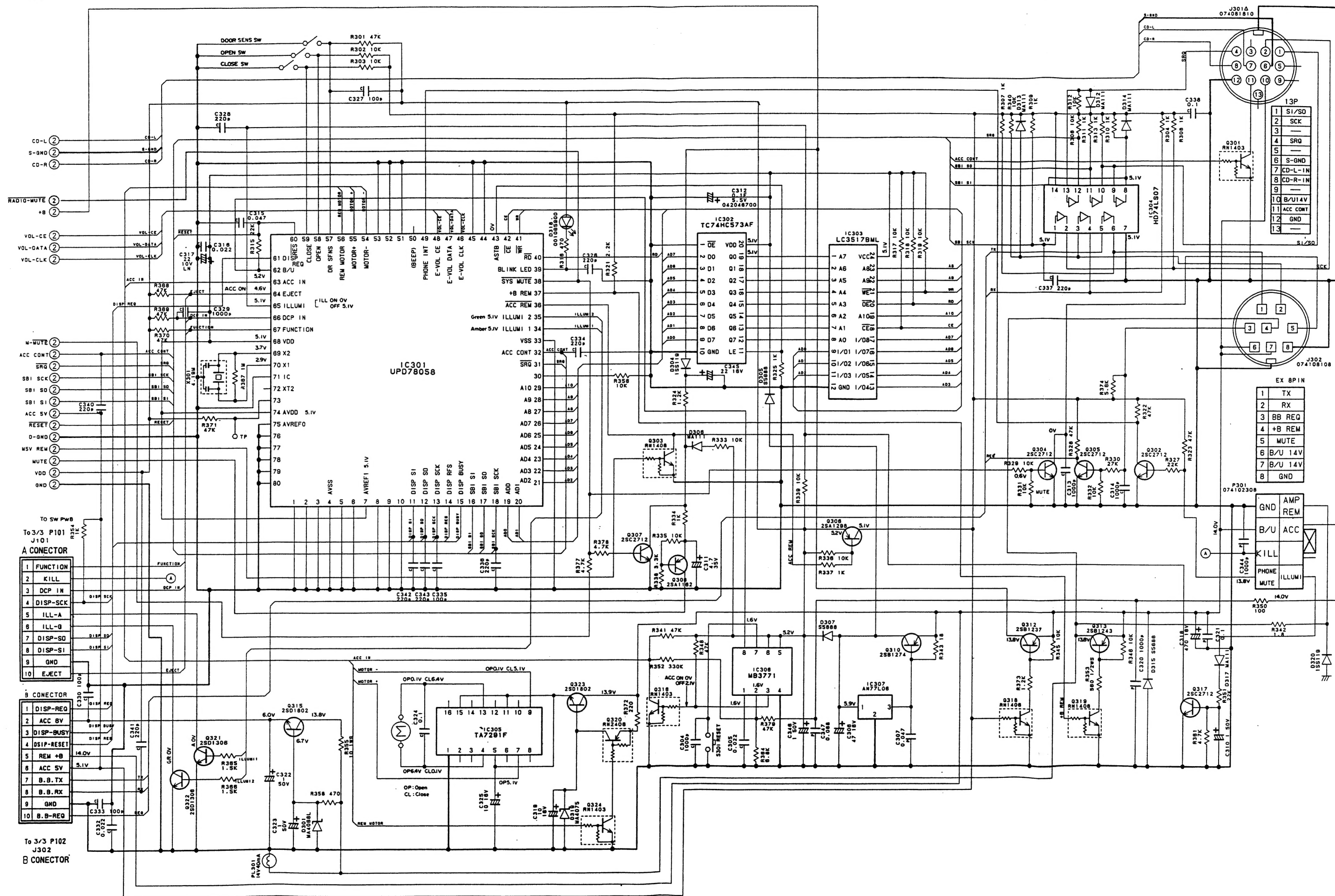
REF NO.	PART NO.	DESCRIPTION	Q'TY
24	947-0385-00	Knob ass'y	1
28	331-0580-00	LCD cover	1
29	379-1025-71	Indicator	1
30	345-7646-00	Rubber connector	1
31	347-5138-00	Film	1
32	347-5140-00	Film	1
33	335-4842-00	Illumi plate	1
34	347-5139-00	Reflector	1
35	076-0456-30	Plug (DCP 10P)	2
37	039-0470-00	Switch P.W.B.	1

REF NO.	PART NO.	DESCRIPTION	Q'TY
40	013-7202-50	Switch (DCP)	1
41	013-6501-52	Switch (TACT)	1
42	013-6501-51	Switch	22
43	017-0438-55	Pilot lamp (4V-150mA)	4
46	060-0321-90	IR receiver (RS-21)	1
48	940-7708-00	Escutcheon ass'y (INNER)	1
50	750-2626-00	Spring	1
51	320-0442-23	Dustproof cover	1
54	347-5142-00	Film	2
55	340-4341-00	Spacer	3

REF NO.	PART NO.	DESCRIPTION	Q'TY
56	347-4082-00	Insulator	1
57	745-0640-00	Washer	4
58	340-4340-00	Roller	1
59	746-0887-00	Washer	1
60	746-0623-01	Washer	3
61	340-4348-00	Spacer	1
62	340-4339-00	Spacer	3
63	683-0062-00	Slide plate	1
64	613-0326-00	Gear (SLIDE)	1
65	291-0072-00	Sticker	1
66	074-1021-10	Outlet socket	2
67	039-0370-00	Connector P.W.B.	1
68	039-0371-00	FPC	1
69	331-0576-00	DCP holder	1
70	716-1715-00	Screw	4
71	331-0577-00	Lever (RIGHT)	1
72	331-0578-00	Lever (LEFT)	1
73	716-1724-00	Screw	2
74	341-1593-00	Shaft	1
75	335-4841-00	Hook	1
76	750-3177-00	Spring	1
80	854-3852-00	Extension lead	1
81	013-3757-00	Switch	2
82	621-0034-01	Thrust holder	1
83	745-0646-00	Washer	2
85	013-3880-00	Switch	1
86	743-1500-20	E-ring	2
88	960-4409-00	T load gear ass'y	1
96	948-0355-00	Motor ass'y	1
101	946-0054-00	Gear box ass'y	1
105	946-0053-00	Lower case ass'y	1
112	001-0659-00	Diode	1
113	074-1082-22	Outlet socket	1
114	013-3932-00	Switch (RESET)	1
115	076-0312-07	Plug	1
116	331-0639-00	IC holder	1
118	074-1022-01	Outlet socket (13P C-BUS)	1
119	331-0579-00	Connector holder	1
120	074-1023-08	Outlet socket (8P POWER)	1
121	074-1081-08	Outlet socket (8P N-BUS)	1
122	076-0509-09	Plug	2
123	840-0531-00	Bonding wire	1
124	880-2075B	FM, AM, LW tuner	1
125	073-0731-00	Terminal	1
127	092-9000-00	ANT recept	1
128	855-8000-04	RCA pin code (RCA 6CH)	1
129	335-0833-01	Lead holder	1
131	039-0471-00	Main P.W.B.	1
134	017-0433-50	Pilot lamp ( 14V 40mA )	1
136	286-8367-00	Setplate	1
137	345-3799-00	Rubber parts	6
138	750-2796-01	Spring (SIDE)	2
139	310-1564-00	Upper case	1
140	930-0738-80	Tape mech.	1
142	716-0778-00	Wave screw	6
143	716-1721-00	P-tight screw	6
144	738-1725-17	Precision screw	3
145	716-0670-01	Screw	2
146	716-0882-00	Motor screw	2
147	702-2008-81	Tap screw	1
148	716-0878-00	IT-screw	5
149	714-3006-80	Machine screw	3
150	714-5008-41	Machine screw	2
151	714-2604-80	Machine screw	13
152	716-1726-00	Screw	1



# ■ CIRCUIT DIAGRAM (1/3): MAIN PWB

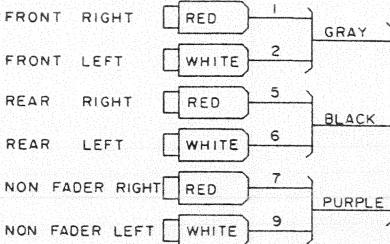




PRINTED WIRING BOARD: MAIN PWB

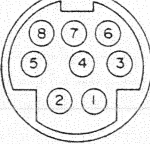
MAIN P.W.B.

RCA LINE OUTPUT

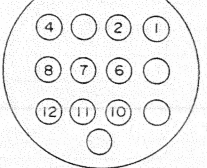


1	Tx (Date Out)
2	Rx (Date In)
3	Request
4	+B Remote
5	Mute
6	Back up +14V
7	Back up +14V
8	Ground
CASE	Ground case

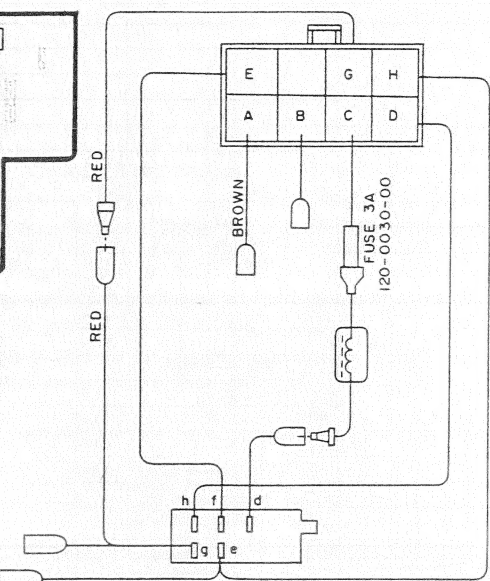
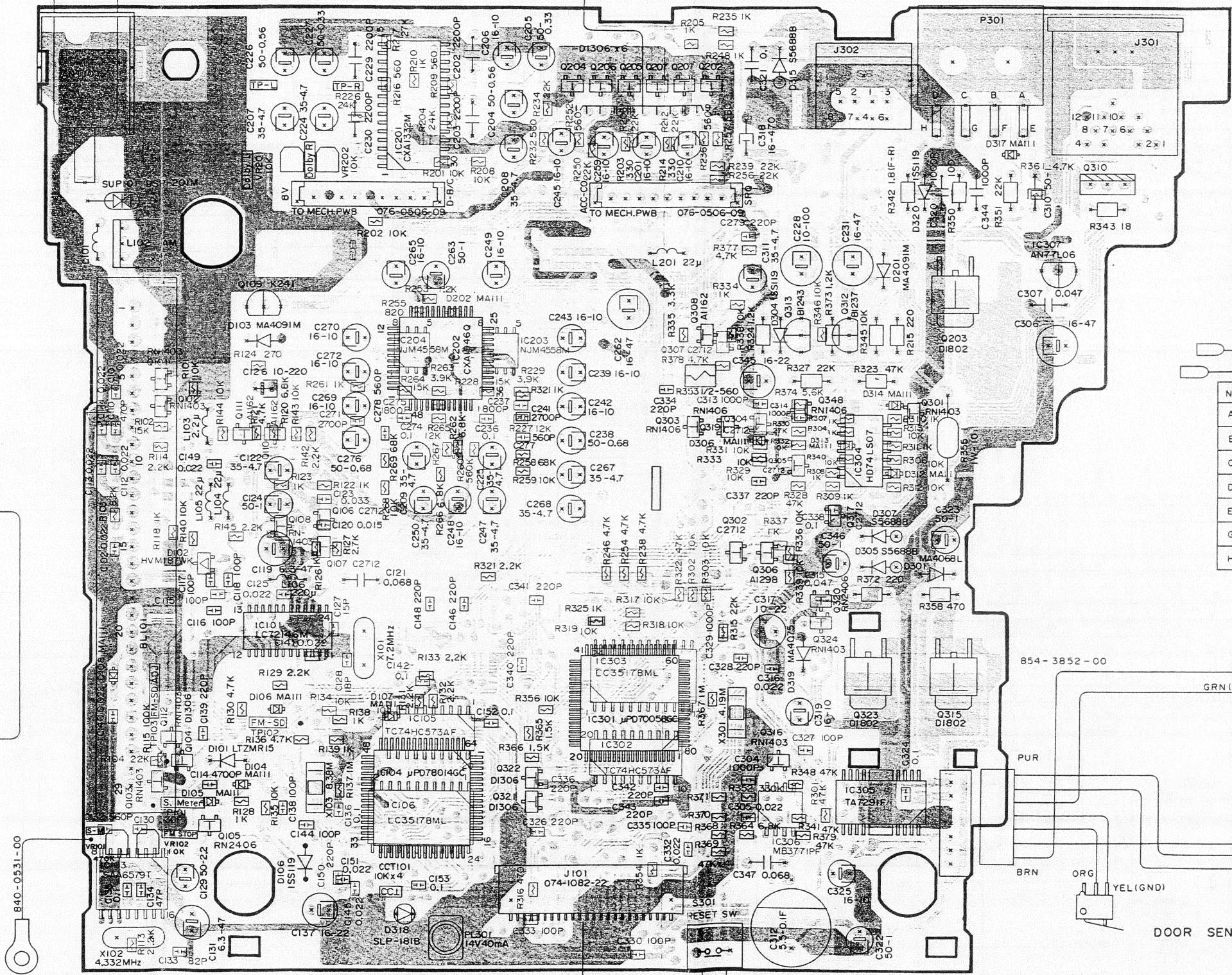
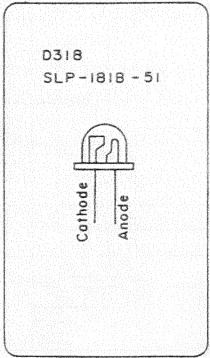
BUS-LINE (8P)  
To DSP, EQ



C-BUS LINE (13P)  
To CD Changer



1	Serial data IN/OUT	8	Right ch. Input
2	Serial clock	10	Back up
4	Service request	11	Accessory control
6	Signal ground	12	Ground (C-Bus)
7	Left ch. Input	CASE	SHIELD



No.	Note	Color	ISO. PIN No.
A	PHONE MUTE	BROWN	—
B	STARTER KILL	BLUE/RED	—
C	BACK UP	YELLOW	d
D	GROUND	BLACK	h
E	ILLUMI.	ORANGE/WHITE	f
G	ACCESSORY CONT.	RED	g
H	AUTO ANT.	BLUE/WHITE	e

«SLOPE CONTROL»

CLOSE SW

GRN (GND)

MOTOR

OPEN SW

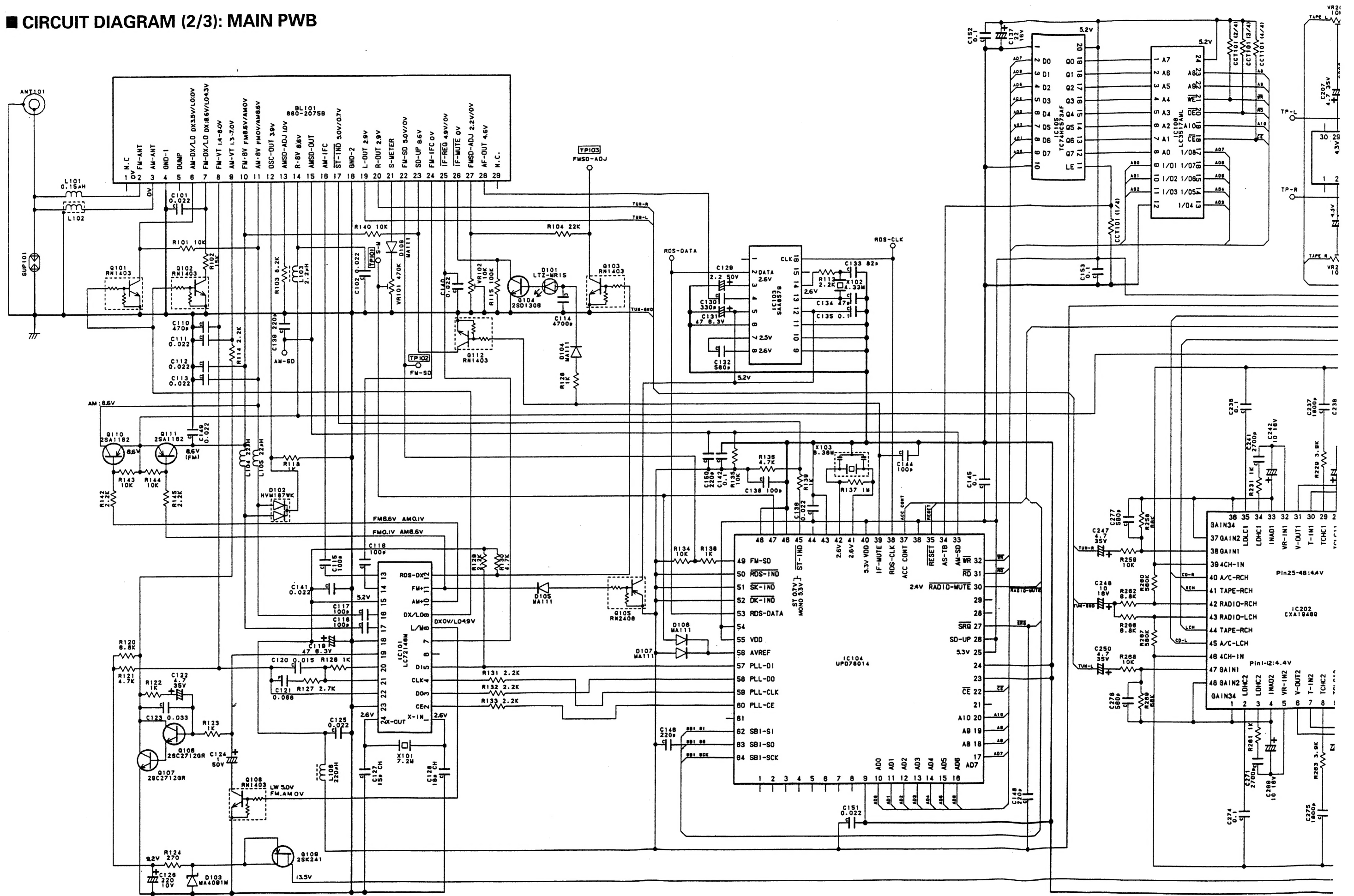
RED

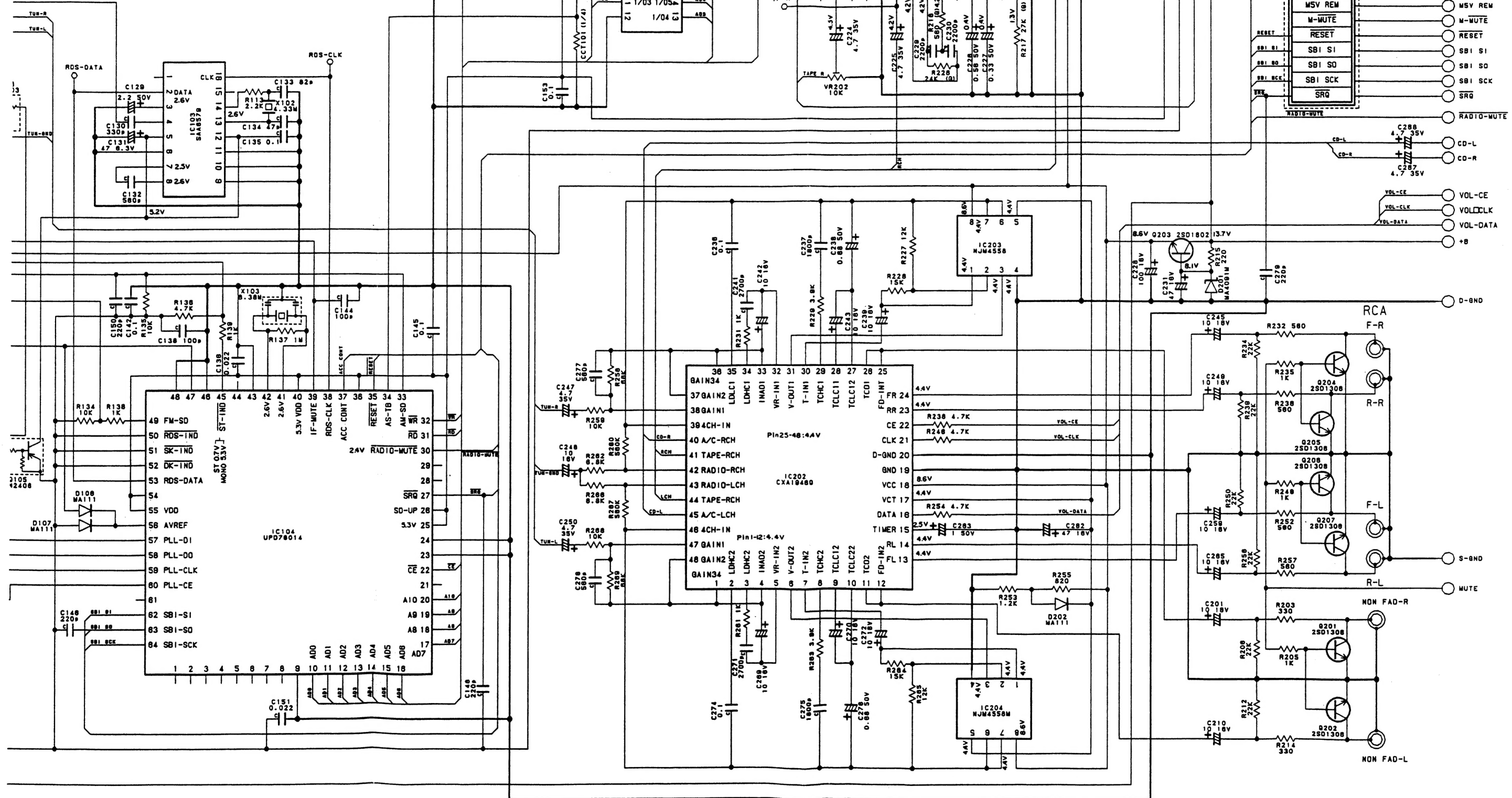
DOOR SENS. SWITCH

To SW P.W.B.



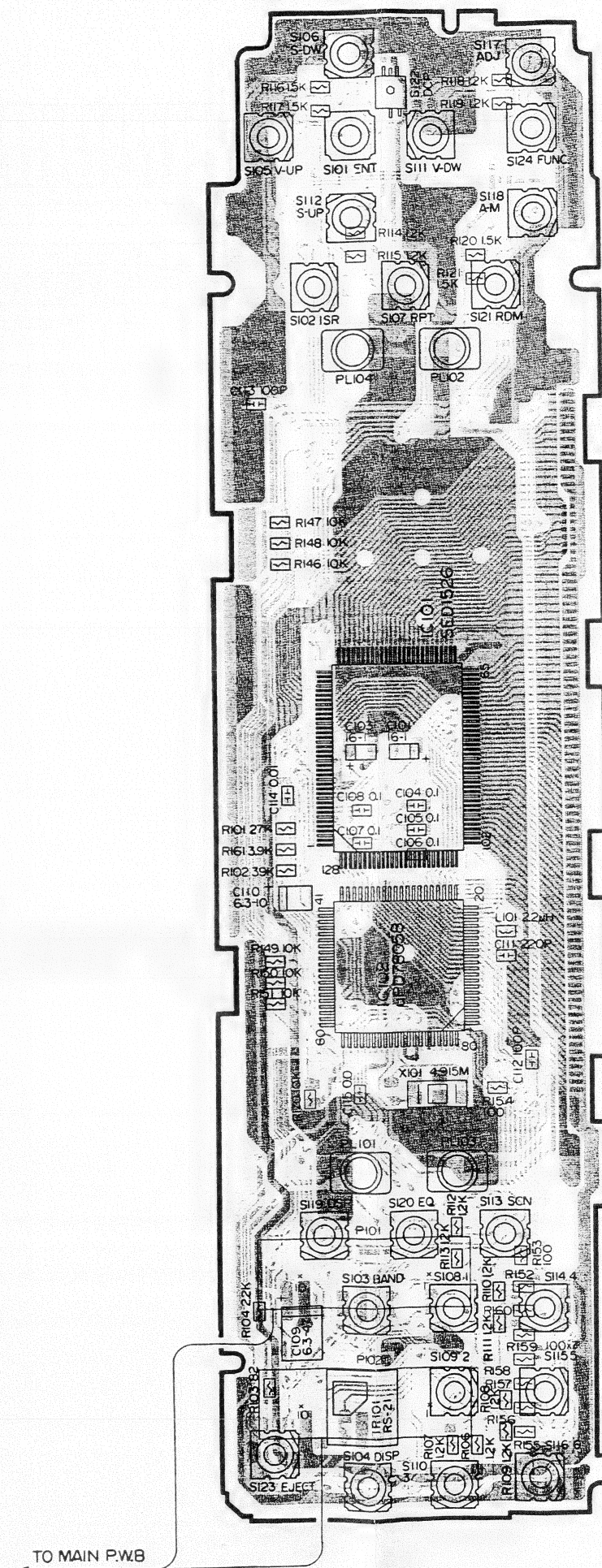
## ■ CIRCUIT DIAGRAM (2/3): MAIN PWB



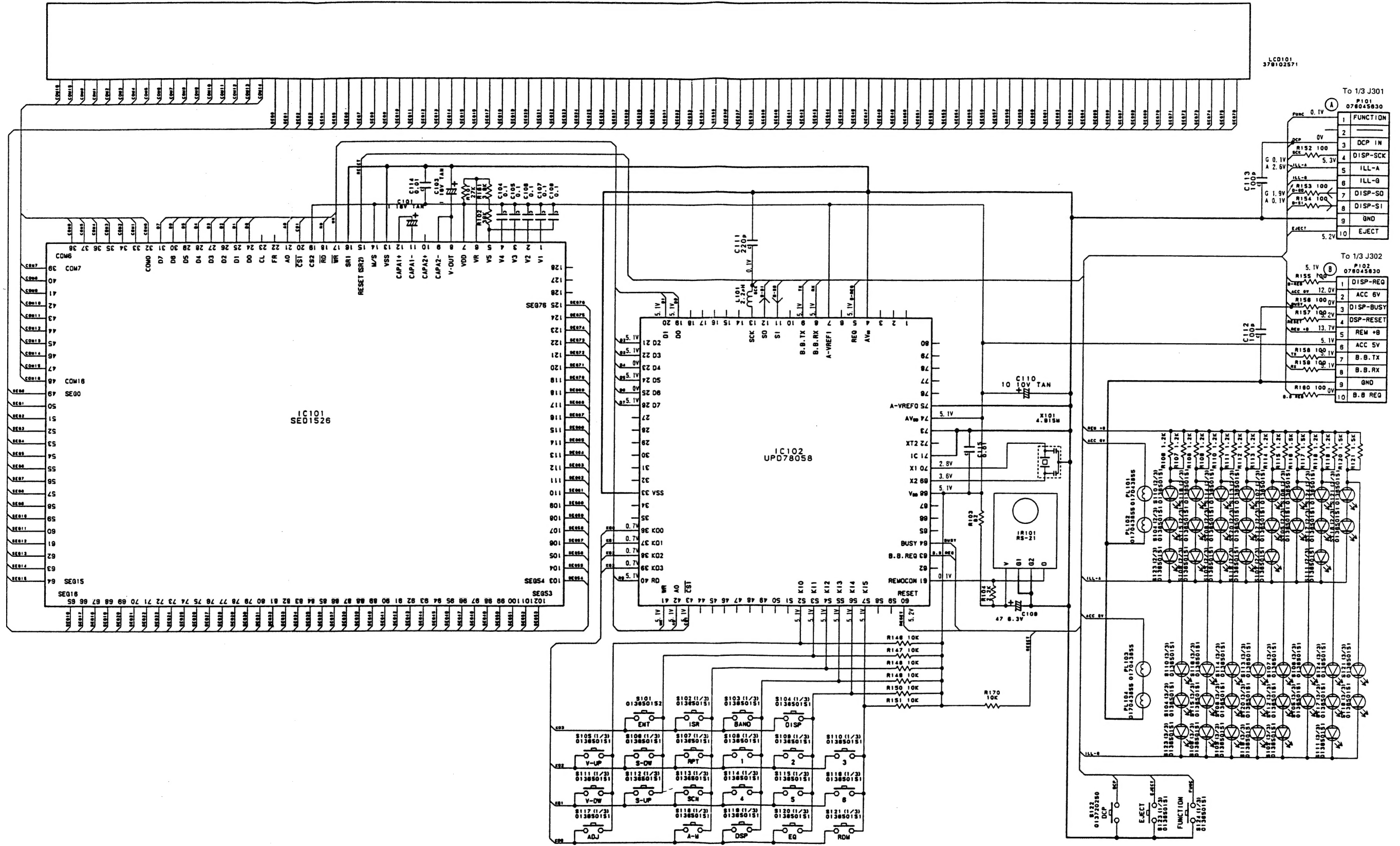




# ■ PRINTED WIRING BOARD: SWITCH PWB



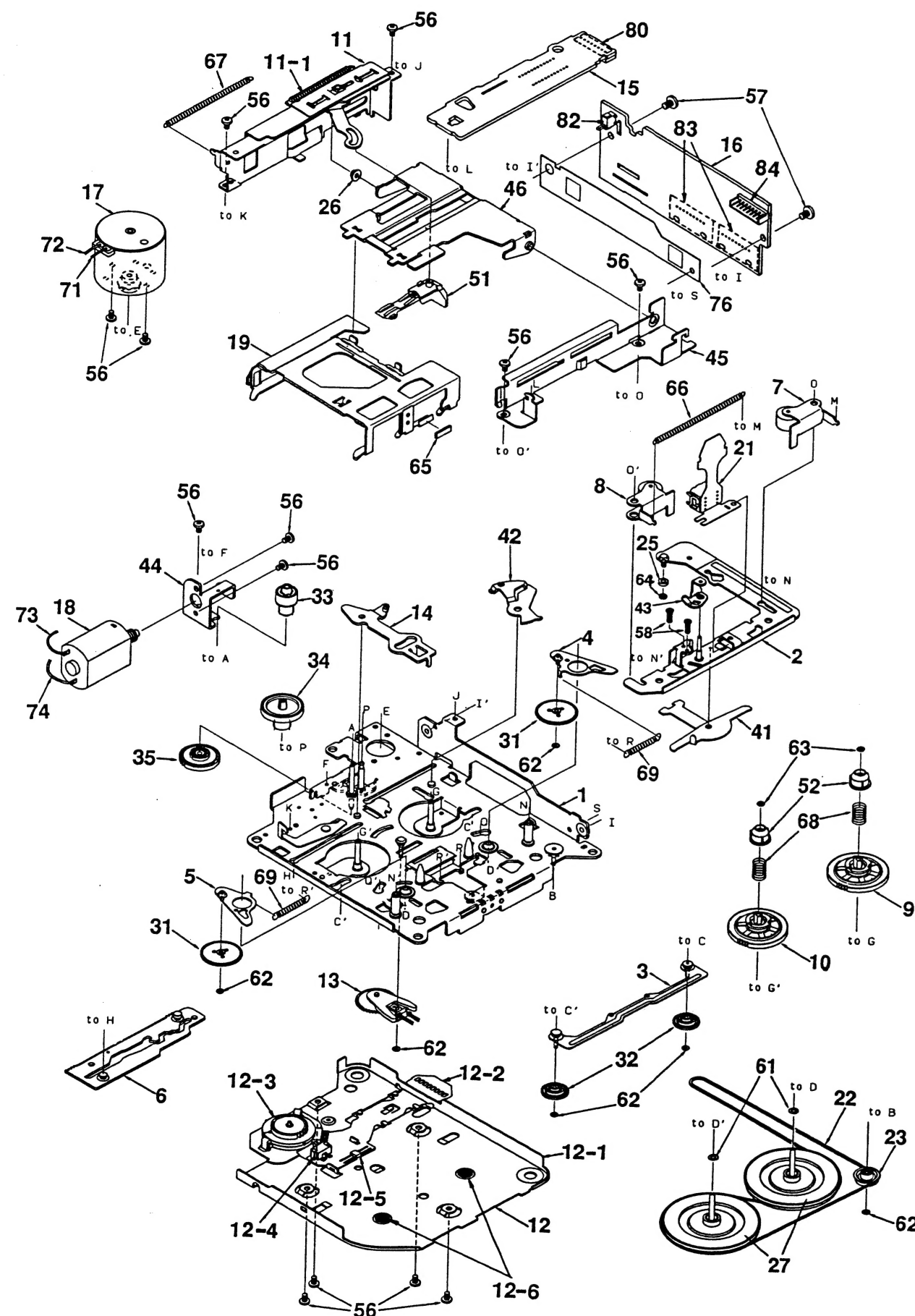
## ■ CIRCUIT DIAGRAM (3/3): SWITCH PWB





# EXPLODED VIEW - PARTS LIST:

◎Tape mechanism 930-0738-80(GFC-1)



NO	PART NO.	DESCRIPTION	QTY	NO	PART NO.	DESCRIPTION	QTY
1	960-4405-90	DECK PLATE-ASSY	1	32	613-0286-02	FF/REW GEAR	2
2	960-4404-90	HEAD PLATE ASSY	1	33	613-0288-01	HERICAL GEAR	1
3	960-4262-03	FF/REW-P-ASSY	1	34	613-0289-01	GEAR A	1
4	960-4263-01	IDLER-P-ASSY F	1	35	613-0290-00	POWER GEAR	1
5	960-4264-01	IDLER-P-ASSY R	1	41	630-2718-00	CHANGE LINK	1
6	960-4266-05	MODE PLATE-ASSY	1	42	630-2598-04	EJECT LINK	1
7	960-4269-05	ROLLER ASSY F	1	43	630-2600-01	ADJUST LINK	1
8	960-4270-05	ROLLER ASSY R	1	44	630-2601-02	MOTER PLATE	1
9	960-4348-90	REEL ASSY F	1	45	630-2626-01	PWB FRAME	1
10	960-4349-90	REEL ASSY R	1	46	630-2642-01	GUIDE ARM	1
11	960-4389-90	EJECT SUB-ASSY	1	51	631-1992-01	PACK STOPPER	1
11-1	750-3020-01	SW-PLATE SPRING	1	52	631-1993-01	SLIDE BUSH	2
12	960-4338-01	BOTTOM SUB-ASSY	1	56	716-0484-00	SCREW-M2X2.25 B	13
12-1	960-4295-02	BOTTOM P-ASSY	1	57	716-0761-01	PWB SCREW	2
12-2	099-9926-01	FLEX PWB	1	58	716-0833-10	AZIMUTH SCREW	2
12-3	013-3951-00	SWITCH-MODE	1	61	746-0624-00	WASHER	2
12-4	013-3953-00	SWITCH-CrO2	1	62	746-0724-00	WASHER	6
12-5	051-1776-01	IC NJL5801K-C	1	63	746-0761-00	WASHER	2
12-6	746-0767-00	WASHER	2	64	746-0762-00	WASHER	1
13	960-4282-99	DETECT-SUB-ASSY	1	65	746-0883-00	CLEANING PAD	1
14	960-4301-02	PLAY-L-ASSY GF	1	66	750-2946-02	PINCH SPRING	1
15	039-0053-00	SIDE PWB	1	67	750-2947-02	EJECT-P-SPRING	1
16	039-0367-00	REAR-PWB	1	68	750-2949-00	SLIDE SPRING	2
17	SMA-130-100	DC-MOTOR-MAIN	1	69	750-3148-00	IDLER P SPRING	2
18	SMA-131-100	DC-MOTOR-POWER	1	71	800-4911-60	UINYL-COAT-WIRE-BLK	1
19	960-4406-90	PACK GUIDE ASSY	1	72	802-4911-60	UINYL-COAT-WIRE-RED	1
21	011-0307-28	HEAD	1	73	806-4914-60	UINYL-COAT-WIRE-BLU	1
22	602-0118-00	BELT	1	74	809-4914-60	UINYL-COAT-WIRE-WHT	1
23	604-0046-00	TENSION PULLEY	1	76	347-4080-00	INSULATOR	1
25	610-0342-01	HEAD-P-ROLLER	1	80	074-0881-08	OUTLET SOCKET-8P	1
26	610-0343-00	GUIDE A ROLLER	1	82	013-3906-00	SWITCH	1
27	611-0091-02	FLYWHEEL	2	83	074-1012-09	OUTLET SOCKET-9P	2
31	613-0285-02	IDLER GEAR	2	84	076-0353-08	PLUG-8P	1

## PARTS LIST:

OSIDA PWB				OREAR PWB			
REF NO.	PARTS NO.	DESCRIPTION	QTY	REF NO.	PARTS NO.	DESCRIPTION	QTY
IC1	051-1546-10	IC BA3138S	1	D101	001-0595-17	Diode MAS991	1
C8,9	173-1231-10	Polyester-C 0.012 $\mu$ F	2	IC102	051-1014-05	IC TA7291F	1
C1-4	175-3311-00	Chip-C 330pF	4	IC101	051-1647-02	IC $\mu$ PD75086GB-616-384	1
C12	175-5611-00	Chip-C 560pF	1	X101	060-0266-00	Cera-resonator	1
C6,7	042-0476-02	Electro-C 10V68 $\mu$ F	2	Q101,104	101-1123-00	Transistor 2SD1123	2
C11	183-1043-61	Electro-C 50V0.1 $\mu$ F	1	Q105	103-1802-60	Transistor 2SD1002FA-R, S, T, U	1
C14	183-2263-31	Electro-C 16V22 $\mu$ F	1	Q102,103	125-2004-06	Transistor RM1406	2
C13	183-4743-61	Electro-C 50V0.1 $\mu$ F	1	C105	163-1063-30	Chip-C 50V0.1 $\mu$ F	1
C10,15,16	183-4753-51	Electro-C 35V4.7 $\mu$ F	3	C103,104	163-4763-30	Chip-C 16V47 $\mu$ F	2
C5	183-4763-11	Electro-C 6.3V47 $\mu$ F	1	C102	043-1601-10	Chip-C 0.1 $\mu$ F	1
				C101	178-2232-78	Chip-C 0.022 $\mu$ F	1

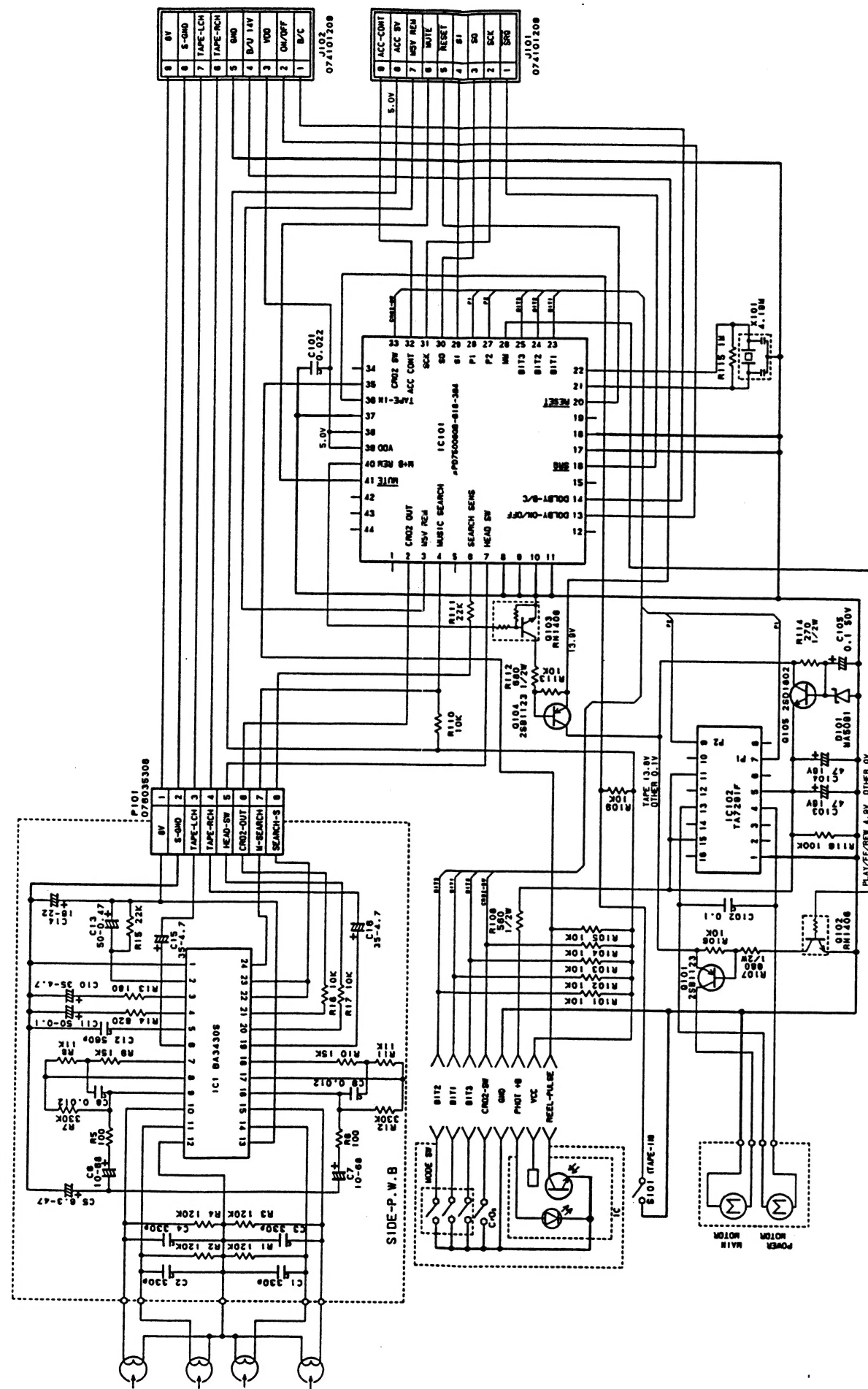
## ADJUSTMENT:

### TAPE MECHANISM SECTION

Item	Procedure	Instruments
Azimuth Adjustment	Make playback for the azimuth-tape (10kHz, -10VU), and turn each azimuth-adjusting screw to make each FWD & REV maximum. After adjustment, make adhesion with bond.	Milli-volt meter Azimuth-tape
Tape speed	Playback the test tape (3kHz, -10VU) and adjust the frequency counter value to be 3000Hz $\pm$ 45Hz with tape speed VR.	Frequency counter Wow flutter-tape (3kHz-10VU)

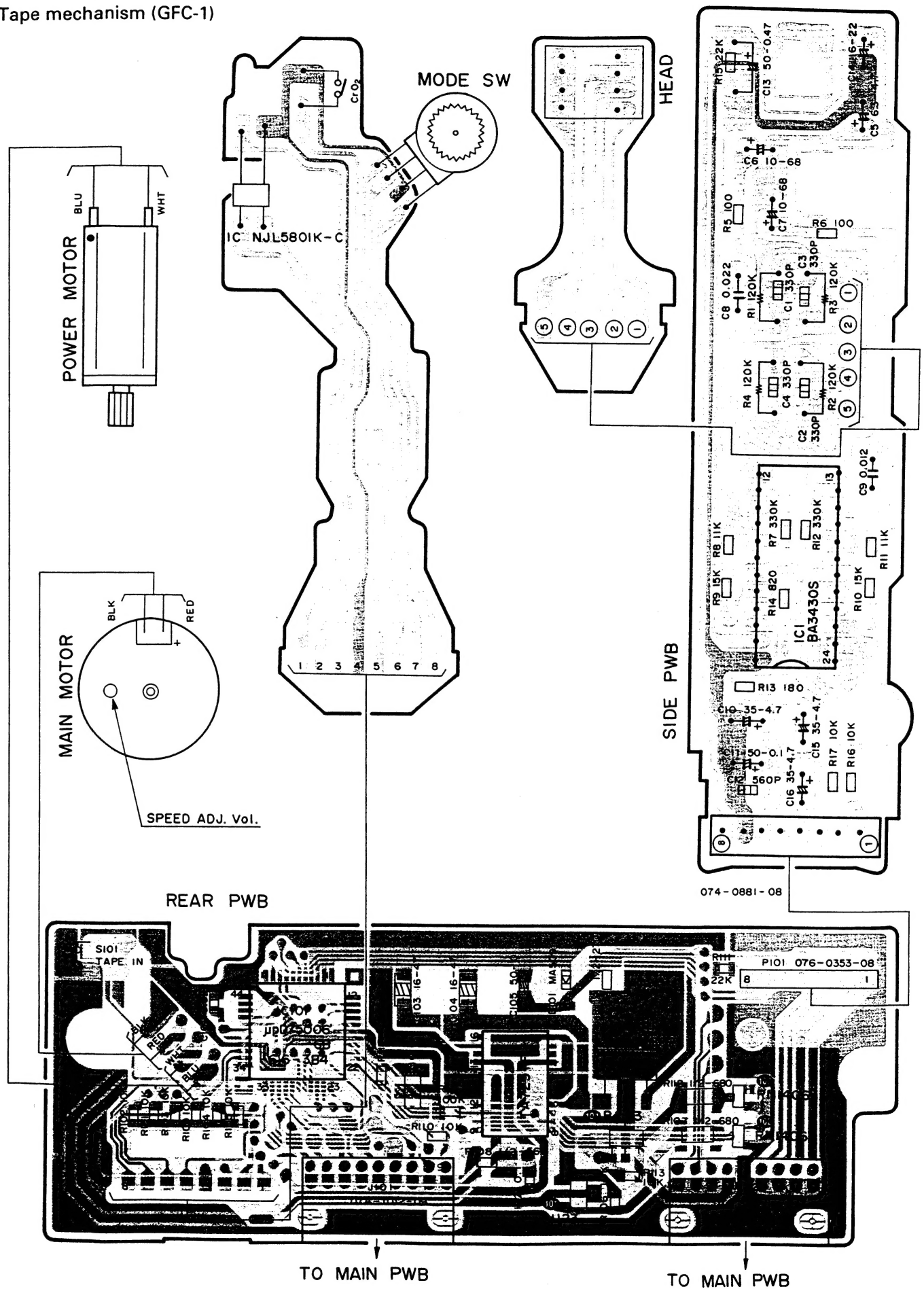


**CIRCUIT DIAGRAM:**



**PRINTED WIRING BOARD:**

© Tape mechanism (GFC-1)



## ■ PRINTED WIRING BOARD:

Tape mechanism (GFC-1)

The diagram illustrates the internal components and wiring of the GFC-1 tape mechanism. Key elements include:

- POWER MOTOR:** A motor with BLU and WHT terminals.
- MAIN MOTOR:** A motor with BLK and RED terminals, featuring a SPEED ADJ. Vol. potentiometer.
- REAR PWB:** The main printed wiring board, showing various components like IC NJL5801K-C, MODE SW, and HEAD.
- MAIN PWB:** The central printed wiring board, showing components like IC NJL5801K-C, MODE SW, and HEAD.
- SIDE PWB:** A side printed wiring board, showing components like IC NJL5801K-C, MODE SW, and HEAD.
- HEAD:** A component labeled HEAD, likely a tape head.
- MODE SW:** A mode switch component.
- IC NJL5801K-C:** An integrated circuit component.
- Resistors and Capacitors:** Various electronic components labeled with values like R1 120K, R2 120K, R3 120K, R4 120K, R5 100, R6 100, R7 100, R8 100, R9 100, R10 100, R11 100, R12 100, R13 100, R14 100, R15 100, R16 100, R17 100, R18 100, R19 100, R20 100, R21 100, R22 100, R23 100, R24 100, R25 100, R26 100, R27 100, R28 100, R29 100, R30 100, R31 100, R32 100, R33 100, R34 100, R35 100, R36 100, R37 100, R38 100, R39 100, R40 100, R41 100, R42 100, R43 100, R44 100, R45 100, R46 100, R47 100, R48 100, R49 100, R50 100, R51 100, R52 100, R53 100, R54 100, R55 100, R56 100, R57 100, R58 100, R59 100, R60 100, R61 100, R62 100, R63 100, R64 100, R65 100, R66 100, R67 100, R68 100, R69 100, R70 100, R71 100, R72 100, R73 100, R74 100, R75 100, R76 100, R77 100, R78 100, R79 100, R80 100, R81 100, R82 100, R83 100, R84 100, R85 100, R86 100, R87 100, R88 100, R89 100, R90 100, R91 100, R92 100, R93 100, R94 100, R95 100, R96 100, R97 100, R98 100, R99 100, R100 100.
- Capacitors:** Various electronic components labeled with values like C1 100, C2 100, C3 100, C4 100, C5 100, C6 100, C7 100, C8 100, C9 100, C10 100, C11 100, C12 100, C13 100, C14 100, C15 100, C16 100, C17 100, C18 100, C19 100, C20 100, C21 100, C22 100, C23 100, C24 100, C25 100, C26 100, C27 100, C28 100, C29 100, C30 100, C31 100, C32 100, C33 100, C34 100, C35 100, C36 100, C37 100, C38 100, C39 100, C40 100, C41 100, C42 100, C43 100, C44 100, C45 100, C46 100, C47 100, C48 100, C49 100, C50 100, C51 100, C52 100, C53 100, C54 100, C55 100, C56 100, C57 100, C58 100, C59 100, C60 100, C61 100, C62 100, C63 100, C64 100, C65 100, C66 100, C67 100, C68 100, C69 100, C70 100, C71 100, C72 100, C73 100, C74 100, C75 100, C76 100, C77 100, C78 100, C79 100, C80 100, C81 100, C82 100, C83 100, C84 100, C85 100, C86 100, C87 100, C88 100, C89 100, C90 100, C91 100, C92 100, C93 100, C94 100, C95 100, C96 100, C97 100, C98 100, C99 100, C100 100.

